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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/590,066      | 05/24/2007  | Michael Mason        | 9706                | 4200             |

22922 7590 06/21/2010  
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| EXAMINER |
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NGUYEN, PHILLIP

|          |              |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2828

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| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

06/21/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPAdmin@reinhartlaw.com

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/590,066 | <b>Applicant(s)</b><br>MASON ET AL. |  |
|                              | <b>Examiner</b><br>PHILLIP NGUYEN    | <b>Art Unit</b><br>2828             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,8,23,26,27,31-33,35,37-39,43 and 44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37 and 39 is/are allowed.
- 6) ☒ Claim(s) 1-4,6,8-10,23 and 38 is/are rejected.
- 7) ☒ Claim(s) 26,27,31-33,35,43 and 44 is/are objected to.
- 8) ☒ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/8/2010 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-4, 6, 8-10, 23 and 38 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

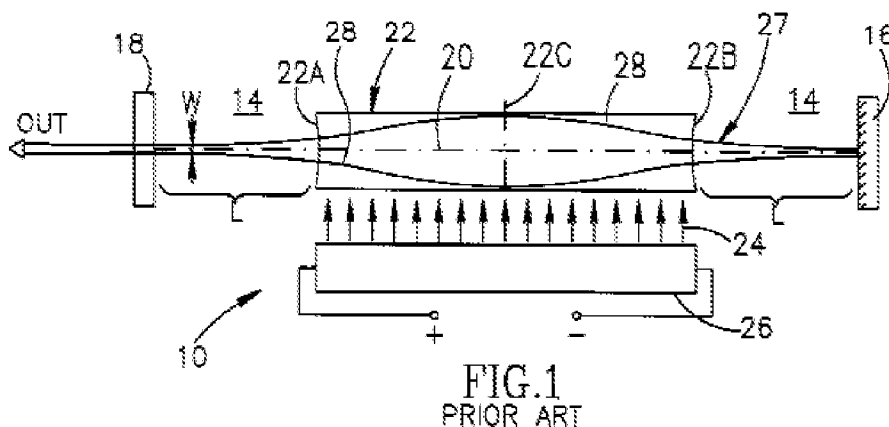
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2828

3. Claims 1-4, 8-10, 23 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Angeley (US 6282223) in view of Scripsick et al. (US 20070153850)

Angeley discloses the claimed invention as follows:



With respect to claims 1 and 38, Angeley discloses in Fig. 1 a solid state laser gain medium 22 having first and second ends 22A and 22B along a laser optical axis 20 in which each end is profiled concave where the solid state laser gain medium is configured to operate in a laser oscillator cavity that is optically symmetrical and includes flat cavity end reflector (col. 3, lines 15-61).

However, Angeley does not explicitly teach the claimed functional language “**such that the beam has a beam quality factor  $M^2$  is maximized at the desired operating pump power.**”

Scripsick discloses a solid state laser through out the Publication. Scripsick further discloses in paragraph 56 "with improved beam qualities so as to be useful in a variety of applications including entertainment and projection systems, optical c communications, optical

Art Unit: 2828

date storage, medical and surgical treatments... This is understood that not all medical applications require multimode operation such as dermatological application. Single mode operation is more popular than multimode for practical applications.

Even though the description of prior art in Angeley teaches the multimode but the reference does not actually limit the laser apparatus to multimode laser beam.

Therefore, it would have been obvious to one skill in the art at the time the invention was made to provide a configure the concave end of the gain medium in order to provide the maximum beam quality factor (single fundamental mode) for other medical applications, not just dermatological applications and also communication as well.

With respect to claim 3, Angeley teaches Er:YAG is a material of the solid state laser gain medium but also discloses Nd:YAG could be used (col. 7, lines 10-19).

With respect to claims 4, 9, and 23 recite intended uses of the laser medium as rejected in claim 1. The intended uses provide no patentable weight. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

With respect to claim 8, Sripsick further discloses in Fig. 2 a solid state laser with a frequency converter 202, a frequency selective reflector 208 between the laser gain medium and the frequency converter 202.

With respect to claim 10, Angeley discloses that the pump source 24 is flash lamp but those skilled in the art will also recognize without further illustration that pump-light 24 may be

Art Unit: 2828

provided by one or more diode-laser arrays. According to the Fig. 1, laser medium 22 is pumped on the side.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Angeley (US 6282223) in view of Scripsick et al. (US 20070153850) and further in view of Smart (US 20020093997). Angeley and Scripsick disclose the claimed invention except for a Q-switch having a first and second acousto-optic cells and respective first and second non-parallel polarization orientations. Smart discloses a laser 10 comprising a gain medium 6 and a Q-switch 8 formed of acousto-optic modulator (paragraph 0060). It would have been obvious to one skill in the art at the time the invention was made to provide a Q-switch as taught by Smart to Angeley in order to produce short pulsed output. Using one reflective end of a Q-switch as a cavity end reflector only involves routine skill in the art to make the laser structure more compact.

***Allowable Subject Matter***

5. Claims 26-27, 31-33, 35, and 43-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 37 and 39 are allowed.

***Communication Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Nguyen whose telephone number is 571-272-1947. The examiner can normally be reached on 9:00 AM - 6:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY, can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phillip Nguyen/

AU 2828

/Minsun Harvey/  
Supervisory Patent Examiner, Art Unit 2828